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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,005	12/10/2003	William G. Reeves	17,988	9405

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EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

08/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/734,005

Applicant(s)

REEVES ET AL.

Examiner

Elena Tsoy Lightfoot

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

Amendment filed on July 7, 2008 has been entered. Claims 1-11, 13 and 19-22 have been cancelled. Claims 12 and 14-18 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Rejection of claims 12 and 16 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chambers et al (US 5597873) has been withdrawn due to amendment.

3. Rejection of claims 12 and 16 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Eckert et al (US 6239230) has been withdrawn due to amendment.

4. Rejection of claims 12, 14, and 16 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Dutkiewicz et al (US 6329565) has been withdrawn due to amendment.

5. Claims 12, 14, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al (US 4734478).

Tsubakimoto et al is applied here for the same reasons set forth in previous Office Actions. Tsubakimoto et al discloses a method of preparing a water-absorbing agent composed of a water-absorbing resin powder having the molecular chains near its surface being *crosslinked* (claimed surface crosslinked superabsorbent-containing composite), the method comprising coating a water-absorbing resin powder by *spraying* (claimed at least one particle of a coating material) a mixture of polyhydric alcohol (claimed hydrophilic association agent), and hydrophilic organic solvent (claimed hydrophilic association agent) in a *fluidizing*-type mixer or

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a gas-current type mixer (See column 4, lines 50-63) to react the water-absorbing resin powder with the polyhydric alcohol (claimed crosslinking reagent) (See Abstract). The gas current-type mixer denotes a device for mixing the powder by **fluidizing** it with a gas such as air (See column 7, lines 14-16). Tsubakimoto et al teaches that mixing of the water-absorbing resin powder with the polyhydric alcohol and the hydrophilic organic solvent **without** water is effected by spraying a **mixture** of the polyhydric alcohol, the hydrophilic organic solvent and water to the water-absorbing resin powder in a fluidizing-type mixer (See column 4, lines 50-62), the mixture is then heated in a fluidized bed dryer, at a temperature and time sufficient for the crosslinking reaction to occur (See column 5, lines 1-18) so that the polyhydric alcohol is reacted with the molecular chains on the surface of water-absorbing resin powder thereby forming a layer of the polyhydric alcohol (claimed coating material) on the surface of the resin powder. Clearly, to obtain a layer of polyhydric alcohol, the particles and coating material should be *maintained* in a stream.

As to amendment, Tsubakimoto et al teaches that the polyhydric alcohol includes sorbitol (See column 3, line 64); and the hydrophilic organic solvent includes propanol, isopropanol, butanol, acetone, dioxane and TGF (See column 4, lines 17-20). It is well known in the art that sorbitol is soluble in water but slightly soluble in methanol and ethanol, almost insoluble in propanol, isopropanol, butanol, acetone, dioxane or TGF. Therefore, sorbitol would be present in the sprayable mixture in the form of solid particle, as required by Amendment. Furthermore, Tsubakimoto et al does not require for the polyhydric alcohol to be soluble in the solvent. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a dispersion of the polyhydric alcohol in a solvent with the expectation of providing the desired coated water-absorbing agent.

Applicants argue that the liquid polyhydric alcohol of Tsubakimoto et al does not satisfy the claim limitations.

The Examiner respectfully disagrees with this argument. First of all, claim 12 recites an organic solvent to be present in the stream but does not recite means of introducing the solvent into the stream. Therefore, claim 12 reads on introducing the organic solvent together with coating particles as a *liquid* mixture of coating particles with the solvent. Second, the Applicants' specification as originally filed uses a liquid coating mixture in the form of dispersion for spraying over particles (See page 7, lines 9-15). Note that the liquid polyhydric alcohol of

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Tsubakimoto et al is also a *mixture* (not solution) of the polyhydric alcohol and solvent; and Tsubakimoto et al does not require for the polyhydric alcohol to be soluble in the solvent.

As to claims 16-17, the mixture may further comprise another compound such as water-soluble polymers (See column 6, lines 6-10), e.g. carboxymethyl *cellulose*, hydroxyethyl *cellulose* (See column 6, lines 28-29). The use of these water-soluble polymers can desirably increase the mechanical strength of the resulting granular product and makes it easy to handle the water-absorbing agent (See column 6, lines 30-33).

6. Claims 12, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al in view of Reeves et al (US 6376011).

As to claim 12, Tsubakimoto et al does not expressly teach a fluidizing method. Reeves et al teaches a fluidizing process that is substantially identical to that of claimed invention described in the specification as originally filed. Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a fluidizing process of Reeves et al with the expectation of providing the desired surface crosslinked superabsorbent-containing composite since Tsubakimoto et al does not limit to particular fluidizing process.

As to claims 15 and 18, Tsubakimoto et al fails to teach that a heated flowing gas is used. Reeves et al teaches that a heated air may be used for coating SAP particles in a fluidized bed (See column 10, lines 27-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a heated air for suspending SAP particles in Tsubakimoto et al, as taught by Reeves et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy-Lightfoot, Ph.D.

Primary Examiner

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August 20, 2008

/Elena Tsoy Lightfoot/

Primary Examiner, Art Unit 1792